REMARKS

Claims 1-20 are pending in the present invention and have been examined. Claims 6-7 and 12-20 have been amended to address the objection due to certain informalities. Now new matter has been added, nor were the claims amended in response to any rejections over the cited prior art. Reconsideration of the present application is respectfully requested in light of the above amendments and below remarks.

Claims 1-5 and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2003-192925 (Yamada). Claims 6 and 12-15 35 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in view of WO/2002/0990440 (Honda). Claims 7 and 16-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in view of WO 01/79354 (Fujihana). Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in view of Honda and further in view of Fujihana. Applicants respectfully traverse these rejections.

Among the limitations of independent claims 1, 2 and 3 that are not taught or suggested in the prior art is a flame-retardant thermoplastic resin containing "an alkali metal-based substance in an amount of 0.2% by mass or less." In addition, independent claims 2 and 3 require that the percentage by mass of the aromatic ring-containing compound, Y, is "$0.5 \leq Y \leq 20$." Independent claim 3 also requires that the percentage by mass of the nucleating agent, Z, is "$0.05 < Z \leq 20$."

Alkali Metal-Based Substance In An Amount of 0.2% By Mass Or Less

Yamada discloses metal hydrate (*e.g.* aluminum hydroxide) having a purity of 99.5% or more. Impurities, such as T-Na_2O and S-Na_2O, therefore appear to account for the remaining 0.5%. *See* Yamada, ¶ 0045.

In contrast to Yamada, independent claims 1, 2, and 3 recite "an alkali metal-based substance in an amount of 0.2% or less." Yamada does not, however, recognize that lowering the alkali metal-based substance to 0.2% or less results in a flame-retardant

thermoplastic resin with superior properties, as shown in the figures and tables in the present specification. Table 1 shows metal hydrates with varying amounts of alkali metal. Each metal hydrate was evaluated for several properties. Figure 1 shows that when the concentration of alkali metal is less than 0.2%, the total flaming combustion time of the resin is unexpectedly lower. Figure 2 shows that when the concentration of alkali metal is less than 0.2%, the number average molecular weight is unexpectedly higher and the resin is superior in hydrolysis resistance. Therefore, an alkali metal of less than 0.2%, as recited in the claims, produces a superior resin as compared to the resin disclosed in Yamada. Accordingly, Applicants respectfully submit that independent claims 1, 2 and 3 patentably distinguish over Yamada.

Aromatic Ring-Containing Compound In An Amount Of $0.5 \leq Y \leq 20$

Yamada discloses a *silica* compound flame retardants (*e.g.* SiO_2) in an amount of 5 to 40% by weight. *See* Yamada, ¶ 0048. The Office Action admits that Yamada does not disclose an aromatic ring (*e.g.* bisphenol-A) in the claimed amount. *See* Office Action, p. 7. But the Office Action asserts that silica and bisphenol-A are equivalents and the amounts of each that can be used are interchangeable, due to the fact that both bisphenol-A and silica are listed together as flame retardant compounds in paragraph [0041] of Yamada. *See* Office Action, p. 7.

Applicants respectfully disagree that silica and bisphenol-A/aromatic rings are interchangeable. Silica is an inorganic and inflammable compound. In contrast, bisphenol-A is a phenolic and flammable compound. Therefore, the two compounds by their very nature are not interchangeable. As such, they have very different properties and cannot necessarily be used in the same amount as flame retardants. One of skill in the art would not therefore replace silica with the same amount of bisphenol-A to arrive at flame retardant thermoplastic resin recited in the present claims. Accordingly, Applicants respectfully submit that independent claims 2 and 3 patentably distinguish over Yamada.

Nucleating Agent In An Amount Of $0.05<Z\leq 20$

Yamada discloses *phosphorous* flame retardants (*e.g.* ammonium (poly)phosphase) in an amount of 1-25% by weight. *See* Yamada, ¶¶ 0037, 0048. The Office Action admits that Yamada does not disclose compounds containing phosphorus as nucleating agents or that the nucleating agents are disclosed in the claimed amount.

Applicants respectfully disagree that the phosphorous compounds disclosed in Yamada can be used as nucleating agents that are flame retardants in claim 3. As discussed in the present specification, although Yamada discloses that the phosphorous compounds can be used as flame retardants, it is not preferable. This is because the phosphorous compounds in Yamada plasticize the resin, thereby improving fluidity, but at the same time *reducing* the heat resistance of the resin. *See* present specification, ¶ 0006.

The specification lists some phosphorous compounds that can be used as a nucleating agents in the present invention. *See* present specification, ¶ 0050. None of these nucleating agents are phosphorous compounds that are taught or suggested in Yamada. *C.f.* Yamada ¶ 0037. Accordingly, Applicants respectfully submit that independent claim 3 patentably distinguishes over Yamada.

Honda and Fujihana were cited for the teaching of additional limitations, none of which cure the deficiencies in Yamada discussed above. Accordingly, it is respectfully submitted that Yamada, whether taken alone or in combination with Honda and Fujihana, does not teach or suggest all the limitations of independent claims 1, 2 and 3.

Claims 5-7, 15, 19 and 20 depend directly or indirectly from and contain all the limitations of independent claim 1. Claims 4, 9, 12 and 16 depend directly or indirectly from and contain all the limitations of independent claim 2. Claims 8, 10, 13 and 17 depend directly or indirectly from and contain all the limitations of independent claim 3. Each of these independent claims recite additional limitations, which, in combination with

the limitations of the claims from which they depend, are neither taught nor suggested by the prior art of record. Accordingly, claims 4-20 are likewise patentable.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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